

REMARKS

In the Office communication mailed on December 17, 2007, the Examiner took action on Claims 12, 20-24 and 26-31. Applicant notes, with appreciation, that all previous rejections of record have been withdrawn from those claims except as summarized below:

- I. Claims 12, 20-24 and 26-31 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement because, in Claims 12 and 26, new subject matter is introduced.
- II. Claims 12, and 20-24 are rejected under 35 U.S.C. § 112, second paragraph, because they are allegedly indefinite.
- III. Claims 12, 20-24 and 26-31 are rejected under 35 U.S.C. § 102(e) for reasons of record stated in the Office action mailed on May 1, 2007.

I. The Applicants Clarifying Limitation to Claims 12 and 26 Adds No New Matter.

The Examiner argued that the specification does not disclose the methods as claimed because the claims require that the gene identified by SEQ ID NO: 1 must remain silent in plants transformed with the gene except when the plant is stressed by drought or cold. Applicants disagree. However, without acquiescing to the rejection, and solely to further the prosecution, claims 12 and 26 have been amended to clarify one embodiment of the invention. Applicants believe that Claims 12 and 26, as amended herein, remove the objection. Applicants reserve the right, however, to prosecute the unamended (or similar) claims in the future. The clarifying amendments add no new matter to the application. Paragraph 0014 makes it clear that “gene silence” is not a

requirement. The paragraph refers explicitly to the concept of “...increasing a level of expression of one or more stress tolerant genes...”

II. Applicants Amendment to Claim 12 To Make the Preamble Comport with the Body of the Claim Adds No New Matter.

The Examiner points out that something is missing if the claim is drawn to a method for regulating dehydration regulatory genes by means of expressing drought regulatory genes. Applicant believes that no gap need be filled now that the claim, which calls for expression of a drought regulatory gene, covers a method for regulating a drought regulatory gene. The amendment adds no new matter. Antecedent basis for a drought tolerance gene is provided, for example, at Paragraph 0016: “Drought tolerance is addressed by and linked to a non-translated region of a gene, such as encoding a signal sequence for polyadenylation of mRNA.”

III. The Claims Are Not Anticipated by Harper *et al.*

The Examiner asserts that Applicants have not presented new arguments to traverse the 102(b) rejection on the record. In fact, in their response to Examiner’s Office Action mailed December 17, 2007, Applicants did traverse Examiner’s arguments offered by him in an Office Action mailed on May 1, 2007, and repeated in his Office Action mailed on December 17, 2007 by pointing out that Examiner assumes facts about the Harper *et al.* SEQ ID NO: 2316 which are not in evidence in Harper *et al.*

Harper *et al.* disclose some 8000 genes besides SEQ ID NO: 2316. The Examiner asserts that SEQ ID NO: 2316 is responsive to “stress includes freezing, drought and other types of environmental stresses.” This is *not* correct. Some of the 8000 genes do respond to freezing, some to drought, some to osmotic stress and some to high salinity. Harper *et al.*, however, do not teach that SEQ ID NO: 2316 responds to freezing or drought. In fact, in teaching that SEQ ID NO: 2316 is singularly sensitive to saline and *not* to cold or to osmotic stress, Harper *et al.* powerfully dissuade the artisan from even trying SEQ ID NO: 2316 in a method of combating cold stress or dehydration stress.

The Examiner urges Applicant to inspect paragraphs 0012 and 0017 on page 2 for confirmation of his assertion that Harper *et al.* teach freezing and drought as stressors to

which SEQ ID NO: 2316 responds. Paragraph 0012, however, does not mention SEQ ID NO: 2316. It mentions a “plant stress-regulated gene” but teaches nothing about the kind of stress that regulates SEQ ID NO: 2316. Paragraph 0017 mentions large groups of genes (SEQ ID NOS:1-5379; SEQ ID NOS:1-2703) that include SEQ ID NO: 2316 but the paragraph teaches only that these genes respond to “abiotic stress.” According to Harper *et al.*, there are many kinds of abiotic stress (see Paragraph 0054). Paragraph 0017 does not reveal which kind or kinds SEQ ID NO: 2316 is sensitive to.

The Examiner urges Applicant to inspect paragraph 0020 on page 3 for confirmation. Paragraph 0020 cites one large group of genes (SEQ ID NOS:2227-2427) that includes SEQ ID NO: 2316, and tells us that the genes of this group respond to “saline stress.” Paragraph 0020 lists no other type of stress as being associated with this group. Indeed, Harper *et al.* make a point of isolating SEQ ID NO: 2316 in a table (Table 7) for “Saline Stress Responsive Sequences.” The sequence does not appear as a “Cold Responsive Sequence” (Tables 3-6) or an “Osmotic Stress Responsive Sequence” (Table 11) or a “Cold & Osmotic Stress Sequence” (Table 15) or a “Cold & Saline Stress Responsive Sequence” (Table 18) or an “Osmotic & Saline Stress Responsive Sequence” (Table 21) or a “Cold, Osmotic & Saline Responsive Sequence” (Table 24). SEQ ID NO: 2316 appears in none of the 31 tables, except Table 7, that list the genes by responsiveness to various stresses.

The Examiner urges Applicant to inspect paragraph 0039 on page 7 for confirmation. Paragraph 39 refers to “stress conditions” collectively. No specific stress is mentioned, and no specific gene is mentioned. The Examiner’s effort to find the specific in the merely generic is pervasive.

The Examiner urges Applicant to inspect paragraph 0067 on page 12 for confirmation. Paragraph 0067 cites one large group of genes (SEQ ID NOS:1-2703) that includes SEQ ID NO: 2316, but tells us only that SEQ ID NO:1 of the group relates to cold regulation. We do not learn what stress SEQ ID NO: 2316 relates to. The paragraph refers to Table 2, but Table 2 is not informative inasmuch as it lists all of the “abiotic stress” genes that Harper *et al.* studied. Again, the Examiner conflates the generic with the specific.

The Examiner urges Applicant to inspect paragraph 0079 for confirmation. Paragraph 0079, however, merely provides a generic definition of “plant stress-regulated genes.” It does not specify which stresses SEQ ID NO: 2316 regulates.

The Examiner asserts that binding of CAACA to SEQ ID NO: 2316 is inherent to SEQ ID NO: 2316. Since Harper *et al.* do not mention CAACA, Applicants are at a loss to determine whether or not this assertion is apropos of anything.

The Examiner urges Applicant to inspect paragraph 0109 on page 18 for confirmation. Paragraph 0109 relates to elements of constructs that may be used to effect transformation. It does not mention SEQ ID NO: 2316 directly or indirectly and sheds no light on the type of stress to which the gene is responsive.

The Examiner urges Applicant to inspect paragraph 0031 on page 5 for confirmation. Paragraph 0031 describes a method for matching a particular gene to one or more stressors. It does not disclose what the method revealed about SEQ ID NO: 2316, if anything.

The Examiner urges Applicant to inspect paragraph 0054 on page 10 for confirmation. Paragraph 0054 provides a definition of “abiotic stress” without, however, matching SEQ ID NO: 2316 to any such stress.

The Examiner urges Applicant to inspect claim 29 for confirmation. Claim 29 ties SEQ ID NOS:1929-2855 to “at least one stress condition” without, however, telling us which “at least one stress condition” the claim is referring to.

The Examiner urges Applicant to inspect claim 33 for confirmation. Claim 33 sets forth a limitation regarding stress tolerance but says nothing about the specific stress sensitivity of SEQ ID NO: 2316.

The Examiner urges Applicant to inspect claim 35 for confirmation. Claim 35 refers to a particular construct of any stress regulatory gene. It does not provide information on what stress or stresses SEQ ID NO: 2316 is responsive to.

The Examiner urges Applicant to inspect claim 46 for confirmation. Claim 46 claims transgenic plants characterized by their transformation with any of many genes without, however, pointing out the specific stress or stresses any one of the plants is sensitive to.

The Examiner urges Applicant to inspect claim 47 for confirmation. Claim 47 limits the claimed set of transgenic plants to plants that respond to a stress (of any kind) more strongly than a wild-type plant. In and of itself, it doesn't tell us whether a plant transformed with SEQ ID NO: 2316 is such a plant, much less what stress it might respond to.

The Examiner urges Applicant to inspect claim 49 for confirmation. Claim 49 refers to "stress conditions" generically. It provides no information about the specific stress condition SEQ ID NO: 2316 might combat.

The Examiner urges Applicant to inspect claim 51 for confirmation. Claim 51 provides no information about the specific stress condition SEQ ID NO: 2316 might combat.

The Examiner urges Applicant to inspect claim 52 for confirmation. Claim 52 refers to a particular construct of any stress regulatory gene. It does not provide information on what stress or stresses SEQ ID NO: 2316 is responsive to.

The Examiner urges Applicant to inspect claim 53 for confirmation. Claim 53 relates to the functionality of constructs of the genes. It does not provide information on what stress or stresses SEQ ID NO: 2316 is responsive to.

The Examiner urges Applicant to inspect claim 55 for confirmation. Claim 55 relates to another functionality of the constructs. It does not provide information on what stress or stresses SEQ ID NO: 2316 is responsive to.

Examiner has noted that "the property of cold or drought tolerance is also inherent to Harper *et al.*'s method..." because, presumably, the method involves incorporating SEQ ID NO: 2316 into a plant. Applicants traverse: Incorporating SEQ ID NO: 2316 won't make the plant cold or drought tolerant if SEQ ID NO: 2316 doesn't regulate cold stress or drought stress – and Harper *et al.* explicitly teach that it doesn't.

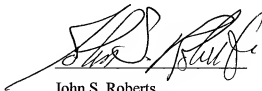
In other words, there is simply no support in Harper *et al.* for Examiner's allegation that the reference anticipates the methods claimed by Applicant.

CONCLUSION

The Applicants believe that the arguments and claim amendments requested for entry herein traverse the Examiner's rejections and, therefore, request that all grounds for

rejection be withdrawn for the reasons set above. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, the Applicants encourage the Examiner to call the undersigned collect at 617.984.0616.

Dated: March 17, 2008

A handwritten signature in black ink, appearing to read 'John S. Roberts', is written over a horizontal line.

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